REMARKS

Applicant thanks the Examiner for the very thorough consideration given the present application.

Claims 1-12 are now present in this application. Claims 1, 4, 7 and 10 are independent.

Amendments have been made to the Abstract of the Disclosure and specification, and claims 1, 4, 7 and 10 have been amended. No new matter is involved.

Reconsideration of this application, as amended, is respectfully requested.

Priority Under 35 U.S.C. § 119

Applicant thanks the Examiner for acknowledging Applicant's claim for foreign priority under 35 U.S.C. § 119, and receipt of the certified priority document.

Objection to the Drawings

The Examiner has objected to the drawings because the plotted line that corresponds to each of the shown equations is not distinguishable because the style of the lines is identical.

In order to overcome this objection, Applicant is concurrently submitting Proposed Drawing Corrections for the Examiner's approval, which address each of the deficiencies pointed out by the Examiner, including translating the Kenji character forum in each of Figs. 6-12. Applicant respectfully submits that it is proper to show three different plots with the same type of line as long as each of the plotted lines is clearly associated with the equation used to form the basis for that plot. Applicant respectfully submits that each plotted line is clearly associated with only one specific equation. Accordingly, reconsideration and withdrawal of this objection are respectfully requested.

Abstract of the Disclosure

As noted, above, it appears that the criticism of the abstract of the disclosure is directed to the specification. Nevertheless, Applicant has amended the Abstract of the Disclosure in order to place it in better form.

It is noted that the Office Action indicates that "[T]he abstract of the disclosure is objected to" on page 3 of the Office Action, where this appears to be referring to the specification on page 3, lines 18-19. Nevertheless, Applicant appreciates the thoroughness of the Office Action and this statement caused Applicant to review the Abstract and to provide a new abstract which hopefully is in better form.

Specification Objection

The Examiner has objected to the specification because of a deficiency that is clear on its face. Applicant has reviewed the specification and it appears that this is the only instance of this deficiency in the main body of the specification. Accordingly, only this one occurrence of the deficiency in the main body of the specification has been corrected. Reconsideration and withdrawal of this objection are respectfully requested.

Claim Objections

The Examiner has objected to claims 1, 4, 7 and 10 because of several informalities. Applicant respectfully traverses this objection

The Office Action indicates that natural log operation can only be performed on unitless numbers but, in the equations of these claims, the natural log of U is taken where U has units of millimeters. The Office Action also indicates that units are not provided for the constants added to either side of the inequalities and states that units are required for all constants, or variables appearing in an equation, except for multiplicative constants. The Office Action also indicates that if a constant or variable is unitless or treated as unitless in an equation, this must be indicated.

Applicant respectfully submits that logarithmic units are abstract mathematical units that can be used to express any quantities, physical or mathematical, that are defined on a logarithmic scale, i.e., as being proportional to the value of a logarithm function. Moreover, while the arguments of logarithmic (or trigonometric or exponential) functions are dimensionless, an absolute measurement of a length is also dimensionless in the sense that an absolute measurement of length is actually a comparison of a length value, e.g., 10 millimeters to a reference length, e.g., a millimeter. In this sense, the parameter "U" is dimensionless. A similar example is measurement of angles in "degrees" or "radians", where these units are really the ratio of arc length to radius of an arc circle (2 pi radians is the ratio of the arc length of one quarter of a circle to its radius) and are, therefore, dimensionless.

Accordingly, Applicant respectfully submits that its disclosure is clear to one of ordinary skill in the art and does not need to be amended to indicate which parameters in its disclosed and/or claimed equations are unitless.

Moreover, Applicant does not supply units for the multiplying factors and added factors and subtracted factors in the equations recited in claims 1, 4, 7 and 10 because these are just mathematical number-type factors that have no units associated with them.

Applicant respectfully submits that the meaning of the equations in these claims is clear to one of ordinary skill in the art, who is expected to take the preceding explanation into consideration when reading the disclosure and claims.

Furthermore, Applicant is not limiting their equations to be determined in terms of millimeters or inches or other unit, as long as all of the dimensions are expressed in the same unit. Because of this, Applicant does not believe that it is necessary to recite a particular scale in its equations.

Accordingly, Applicant respectfully submits that the equations in claims 1, 4, 7 and 10 are proper as they stand.

Applicant agrees with the Examiner that the language "wherein an aspect ratio of an effective surface (U) of the panel is 4:3, a diagonal size of the effective surface is" is incorrect and has changed this recitation to read -- wherein an aspect ratio of an effective surface ~~(U)~~ of the panel is 4:3, a diagonal size (U) of the effective surface is --. Similar amendments have been made to similar language in claims 1, 4, 7, and 10.

Applicant has also amended claims 1, 4, 7 and 10 to simply remove the numerical identified "100" in those claims to overcome the objection.

For the aforementioned reasons, Applicant respectfully submits that the objections to claims 1, 4, 7 and 10 have been overcome.

Reconsideration and withdrawal of these objections to claims 1, 4, 7 and 10 are respectfully requested.

Rejections under 35 U.S.C. § 103

Claim 1 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 4,537,321 to Tokita in view of U.S. Published pending Patent Application 2003/0122474 and further in view of U.S. Patent 4,537,322 to Okada et al. ("Okada"). This rejection is respectfully traversed.

In rejecting claims under 35 U.S.C. §103, it is incumbent on the Examiner to establish a factual basis to support the legal conclusion of obviousness. See, In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the Examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one of ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal Inc. v. F-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.

1988), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the Examiner are an essential part of complying with the burden of presenting a *prima facie* case of obviousness. Note, In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. In re Fritch, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783-84 (Fed. Cir. 1992). To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be suggested or taught by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1970). All words in a claim must be considered in judging the patentability of that claim against the prior art. In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

A showing of a suggestion, teaching, or motivation to combine the prior art references is an "essential evidentiary component of an obviousness holding." C.R. Bard, Inc. v. M3 Sys. Inc., 157 F.3d 1340, 1352, 48 USPQ2d 1225, 1232 (Fed. Cir. 1998). This showing must be clear and particular, and broad conclusory statements about the teaching of multiple references,

standing alone, are not "evidence." See In re Dembiczak, 175 F.3d 994 at 1000, 50 USPQ2d 1614 at 1617 (Fed. Cir. 1999). Moreover, a factual inquiry whether there is proper motivation to modify a reference must be based on objective evidence of record, not merely conclusory statements of the Examiner. See, In re Lee, 277 F.3d 1338, 1343, 61 USPQ2d 1430, 1433 (Fed. Cir. 2002).

Furthermore, it is well settled that a rejection based on 35 U.S.C. §103 must rest on a factual basis, which the Patent and Trademark Office has the initial duty of supplying. In re GPAC, Inc., 57 F.3d 1573, 1582, 35 USPQ2d 1116, 1123 (Fed. Cir. 1995).

The Office Action admits that Tokita, the base reference on which this rejection is made, fails to disclose the thickness of the center of its flat-screen CRT. Tokita does disclose that its glass panel section 60 has the same anti-implosion characteristics of the prior art glass panel section if the faceplate is made only one millimeter thicker than the prior art faceplate 22.

Tokita does not disclose the thickness of the prior art faceplate, however.

In an attempt to remedy this deficiency, the Office Action turns to US PAP 2003/0122474, which reduces the prior art CRT faceplate center thickness by 2.5 mm from 21.5 mm to 19 mm (page 5, paragraph [0080] and Table 2).

The Office Action also turns to Okada to remedy this deficiency. Okada discloses that the thickness of its faceplate 72 is 12.0 mm. (col. 6, lines 55-56, and col. 7, lines 1-3).

The Office Action indicates that the range of thickness that would place the panel of Tokita within the metes and bounds of claim 1 is from 15mm to 17.8mm.

The Office Action concludes that it would be obvious to one of ordinary skill in the art to modify Tokita to have a center thickness in the range of 15mm to 17.8mm "as disclosed by Okada and Lee, to reduce the weight of the panel, increase the transmittance, and reduce the risk of implosion."

Applicant respectfully disagrees with this conclusion for a number of reasons.

Firstly, the closest reference to Tokita., in terms of being commonly assigned to the same manufacturer of CRTs, is Okada. Okada is also closest in time to Tokita, both U.S. Patent applications having been filed the very same month of the very same year, i.e., December 1983, and issued on the very same day, i.e., August 27, 2005. Okada discloses a CRT faceplate panel center thickness of 12mm. So, if Tokita's invention is applied to the prior art CRT faceplate of Okada, it will be reduced in thickness by one mm from 12mm to 11 mm. It is clear that a CRT faceplate center thickness of 11mm for Tokita clearly does not anticipate, nor render obvious, the claimed invention.

The Office Action has not even made out a *prima facie* case that Tokita's CRT faceplate center thickness is 12 mm, but if one were to look at CRT's by the same manufacturer with respect to which U.S. Patents were filed in December

1983, one would certainly see that the thickness of the center of such faceplates was 12mm, and no larger.

Accordingly, Okada teaches away from modifying Tokita to arrive at the claimed invention.

The Office Action also relies on Lee, which is a U.S. pending patent application assigned to a different assignee than either Tokita or Okada, and was filed in the USPTO on May 6, 2002, some eighteen and one-half years after Tokita or Okada was filed. The Office Action does not provide any objective factual evidence that the CRT faceplate center thickness of Lee would be expected to be the same as that of the CRTs of the "circa 1983" Tokita or Okada references. Moreover, Lee indicates significant differences for the wedge rate (ratio of faceplate diagonal end thickness to faceplate center thickness) between mask stretching type color CRTs and formed mask-type color CRTs (a difference of 1-3 to 2.0 as disclosed in paragraph [0059]). Yet, the office Action does not take this significant factor into account in considering whether one of ordinary skill in the art would make Tokita's faceplate central thickness within a range that the claims read on.

Furthermore, the Office Action does not even address the differences between the faceplate center thicknesses of Okada (11mm) and Lee (19mm), what can account for them, and why one of ordinary skill in the art would look to

both of these disparate references to be motivated to modify Tokita to arrive at the claimed invention.

In other words, these two references disclose faceplate center thicknesses that are substantially different, and neither reference discloses why a particular faceplate center thickness is desirable or provides any motivation to a skilled worker to modify the faceplate center thickness of Tokita.

Instead, the Office Action merely refers to Lee's generic teaching of reducing the thickness of the CRT faceplate panel to reduce weight and increase transmittance of the panel, and refers to Okada's generic teaching that thickness of the panel is a significant factor in preventing implosion. Unfortunately, these teachings are broad, general principle-type teachings that do not constitute objective factual evidence to motivate one of ordinary skill in the art to modify Tokita to make the center thickness of its faceplate panel fit into the range that the claimed invention will read on. See *Dembiczak*, cited above, in this regard.

The Office Action has not demonstrated that these general principle-type teachings will motivate a skilled worker to come up with a desired faceplate center thickness for Tokita because Tokita contains the same types of teachings. See, in this regard, col. 6, lines 30-48, and col. 7, lines 1-10, which discuss improving screen flatness while allowing anti-implosion characteristics.

In other words, the general principle teachings of both secondary references are merely cumulative to the similar teachings of the base reference.

A fair, balanced review of this rejection reveals that the Office Action merely picks and chooses two different secondary references, one of which has a faceplate central thickness that falls within a desired range with no guidance as to why it was selected, and another secondary reference, with a number of similarities to the base reference (same assignee, same inventive time frame, etc.) that discloses a faceplate center thickness that falls outside of the desired range, and expects one of ordinary skill in the art to follow these two disparate teachings to modify Tokita to provide a faceplate center thickness that falls within the desired range.

This does not provide proper motivation to a skilled worker to modify Tokita to achieve an invention that claim 1 reads on. It simply provides a skilled worker with no motivation to modify Tokita to achieve the claimed invention.

Accordingly, the Office Action fails to make out a *prima facie* case of obviousness of the claimed invention recited in claim 1.

Reconsideration and withdrawal of this rejection of claim 1 are respectfully requested.

Allowed and Allowable Subject Matter

Applicant acknowledges with appreciation the allowance of claims 4-12.

Applicant also acknowledges with appreciation the indication of allowable subject matter in claims 2 and 3.

The Examiner states that claims 2 and 3 would be allowable if rewritten in independent form.

Applicant thanks the Examiner for the early indication of allowable subject matter in this application. Applicant has not re-written claims 2 and 3 in independent form, however, because Applicant believes that claim 1, from which claims 2 and 3 depend, is allowable for reasons discussed above.

Additional Cited References

Because the remaining references cited by the Examiner have not been utilized to reject the claims, but have merely been cited to show the state of the art, no comment need be made with respect thereto.

Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone Robert J. Webster, Registration No. 46,472, at (703) 205-8076, in the Washington, D.C. area.

Prompt and favorable consideration of this Amendment is respectfully requested.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By: _____

James T. Eller, Jr. #41,458
Reg. No.: 39,538

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P.O. Box 747
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Telephone: (703)205-8000

Attachment: Replacement Drawing Sheets
Annotated Drawing Sheets
Abstract of the Disclosure

Amendments to the Drawings

The attached four (4) sheets of drawings include changes to Figs. 6-12. These four (4) sheets, which include Figs. 6-12, replace the original four (4) sheets that include those same Figures.

The legends currently located outside of the graphs have been moved inside of the graphs adjacent to the plots, which illustrate the legends. In this way, one legend is clearly associated with one plot. Also, the Kenji character found in the legend of each of Figs. 6-12 has been translated.

Attachment: Replacement Sheet
Annotated Sheet Showing Changes

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FIG. 6

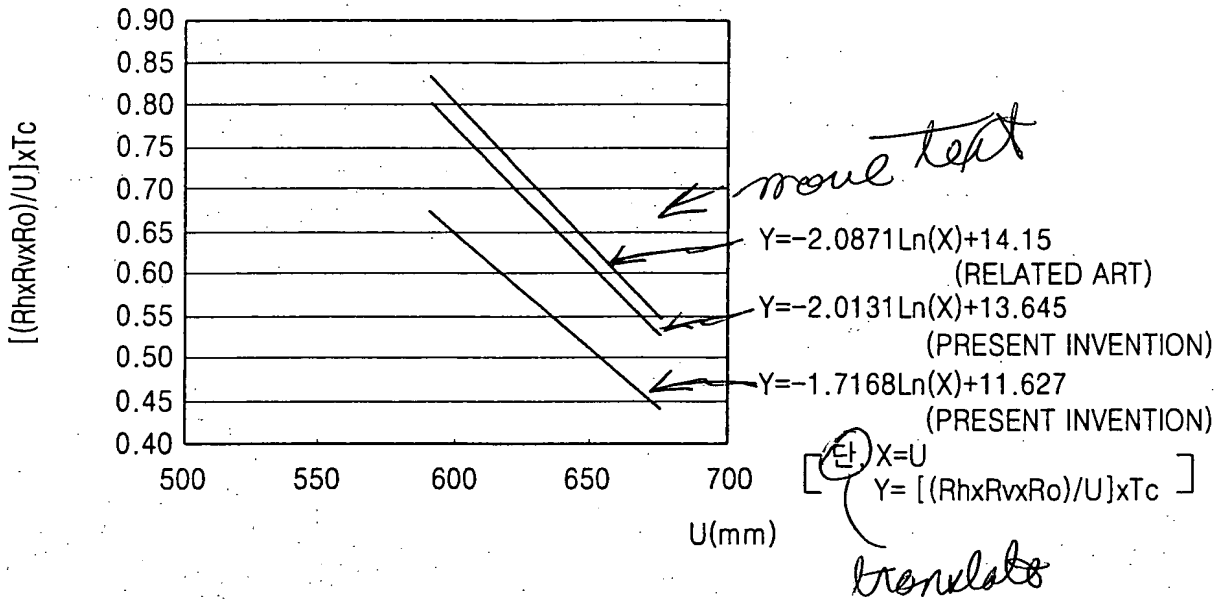

FIG. 7

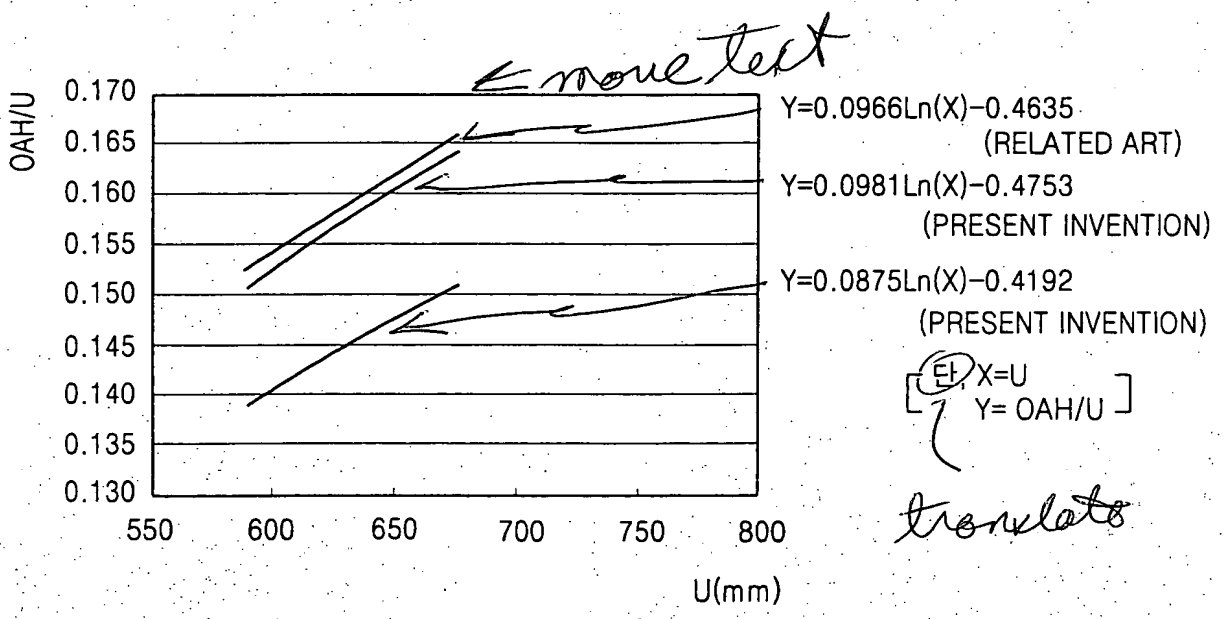

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FIG. 8

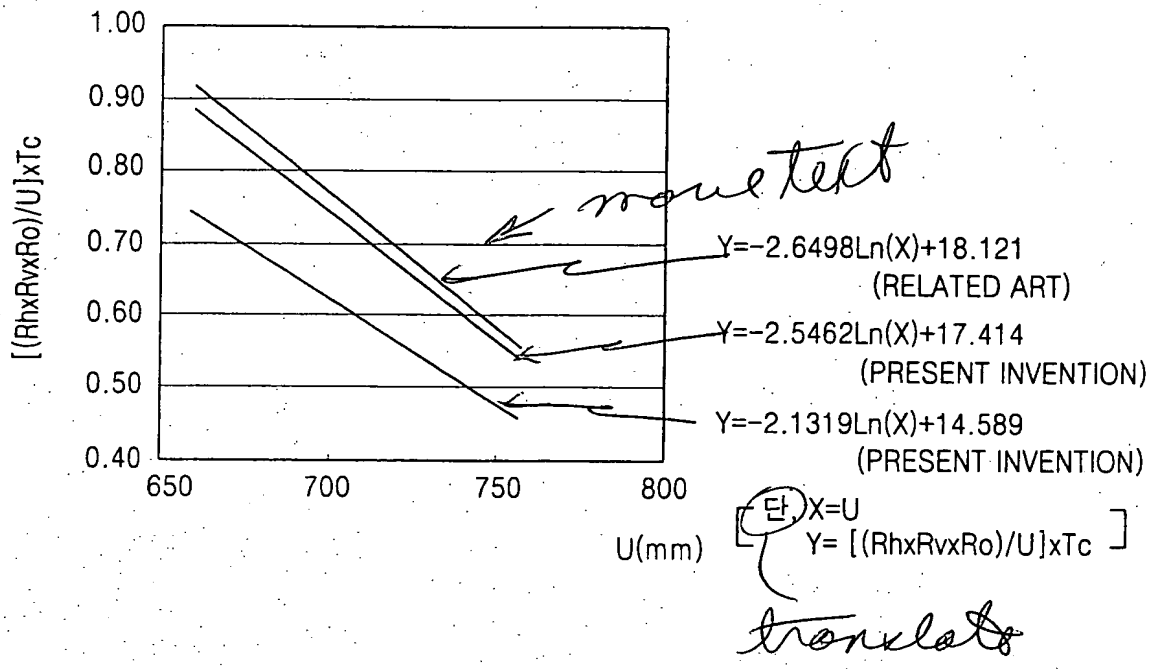


FIG. 9

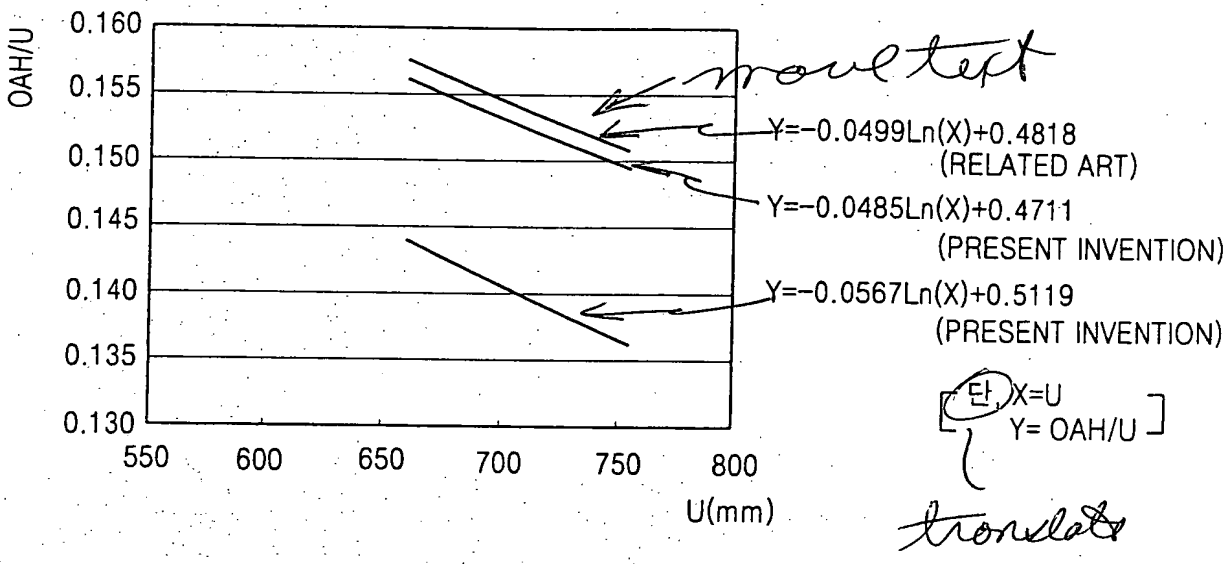

OAH/U
0.160
0.155
0.150
0.145
0.140
0.135
0.130
550
600
650
700
750
800
U(mm)
move left
Y=-0.0499Ln(X)+0.4818
(RELATED ART)
Y=-0.0485Ln(X)+0.4711
(PRESENT INVENTION)
Y=-0.0567Ln(X)+0.5119
(PRESENT INVENTION)
단, X=U
Y= OAH/U
translate

FIG. 10

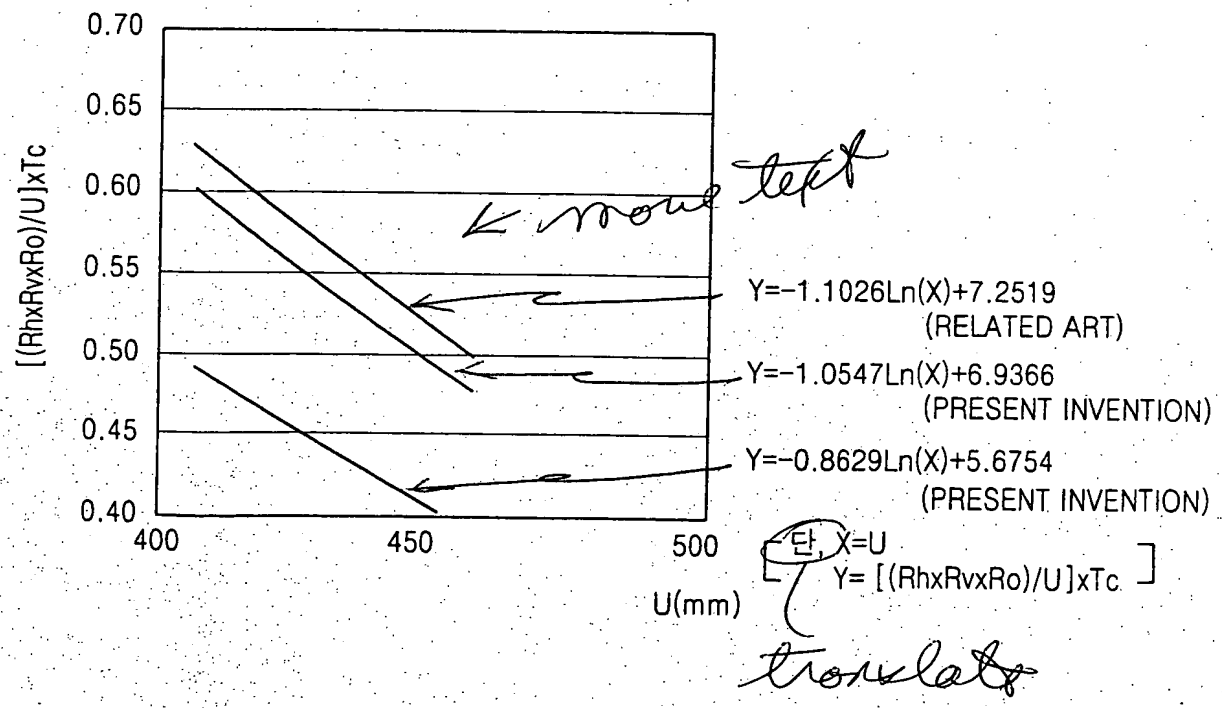

[(RhxRvxRo)/U]xTc
0.70
0.65
0.60
0.55
0.50
0.45
0.40
400
450
500
U(mm)
move left
Y=-1.1026Ln(X)+7.2519
(RELATED ART)
Y=-1.0547Ln(X)+6.9366
(PRESENT INVENTION)
Y=-0.8629Ln(X)+5.6754
(PRESENT INVENTION)
단, X=U
Y= [(RhxRvxRo)/U]xTc
translate

FIG. 11

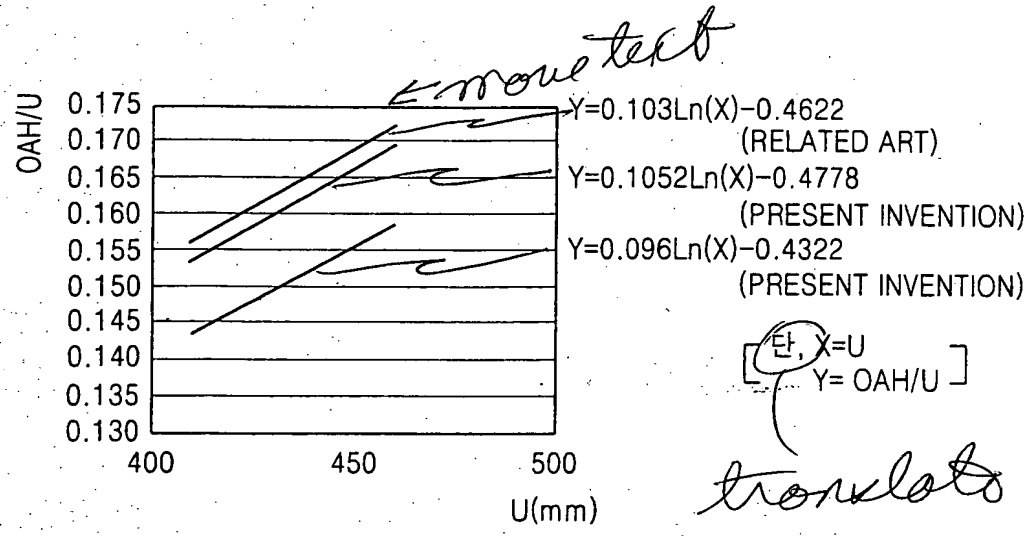
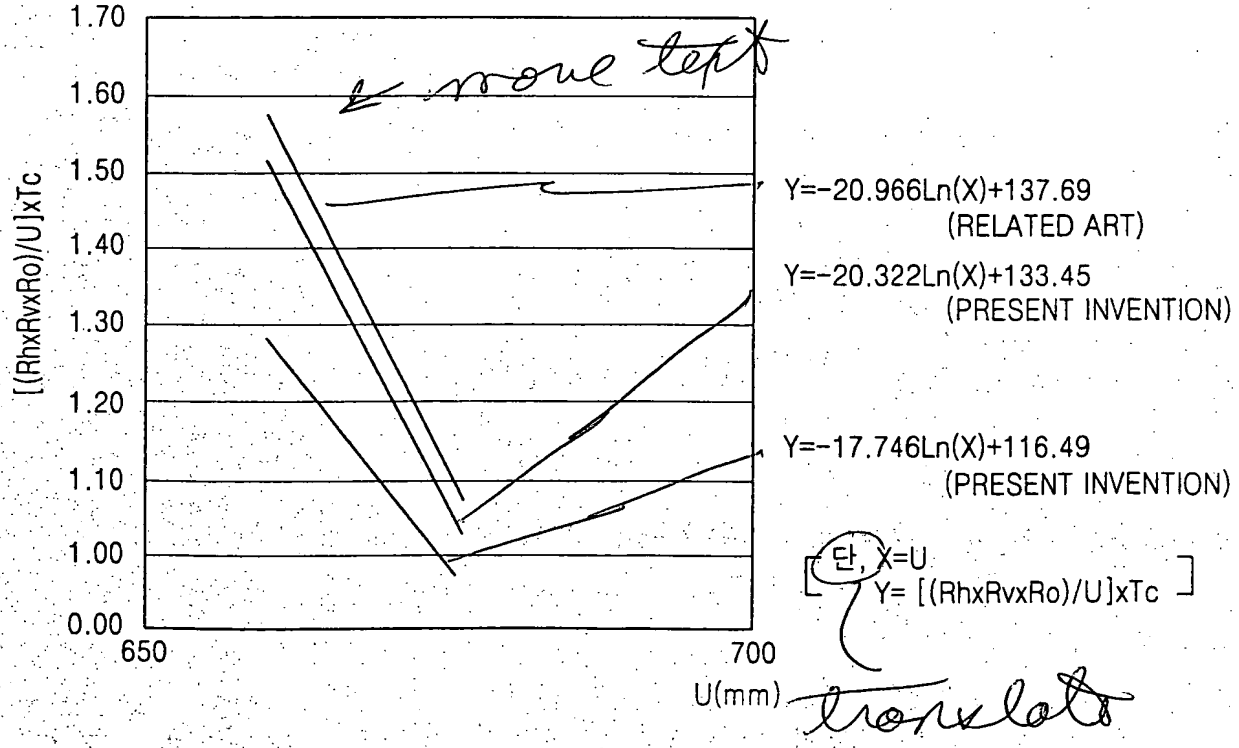

move left
OAH/U
0.175
0.170
0.165
0.160
0.155
0.150
0.145
0.140
0.135
0.130
400
450
500
U(mm)
Y=0.103Ln(X)-0.4622
(RELATED ART)
Y=0.1052Ln(X)-0.4778
(PRESENT INVENTION)
Y=0.096Ln(X)-0.4322
(PRESENT INVENTION)
단, X=U
Y= OAH/U
translate

FIG. 12


move left
[(RhxRvxRo)/U]xTc
1.70
1.60
1.50
1.40
1.30
1.20
1.10
1.00
0.00
650
700
U(mm)
Y=-20.966Ln(X)+137.69
(RELATED ART)
Y=-20.322Ln(X)+133.45
(PRESENT INVENTION)
Y=-17.746Ln(X)+116.49
(PRESENT INVENTION)
단, X=U
Y= [(RhxRvxRo)/U]xTc
translate